MUSEUM ALLIANCE

QUARTERLY

LOS ANGELES COUNTY MUSEUM OF NATURAL HISTORY
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Ukranian basket for food blessing Traditionally, on Easter morning, Ukranians take a basket of food to the church to be blessed by the priest. The foods are those eaten for Easter breakfast, the breaking of the long Lenten fast: ham, Polish sausage, salt, a special Easter bread and a hardboiled egg are the essentials. In addition butter, cottage cheese and horseradish are usually blessed along with pysanky or decorated eggs. These are almost the same foods one would find in the baskets which are blessed in Austria, Yugoslavia and other countries. (See pg. 3 for explanation of symbolism.)

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Director honored on retirement

Many of the hundreds of friends of Dr. and Mrs. Herbert Friedmann met in April to honor the retiring Director and his wife.

Some 160 persons representing the Museum staff and the Board of the Museum Alliance were present at a dinner at Sir Michael's restaurant. A second dinner in the Museum attracted nearly 100 dignitaries and leaders of the academic community.

At the latter dinner, Supervisor Ernest Debs presented a certificate on behalf of the County. Representing their respective institutions were Dr. and Mrs. William Burns of the San Diego Natural History Museum, Mr. and Mrs. Kenneth Donahue, County Art Museum and Mr. and Mrs. William McCann, California Museum of Science and Industry.

Guests at the dinner heard Mr. Ed N. Harrison, president of the Board of Governors, announce the establishment of the Herbert Friedmann Scholarship. The $2,500 fund will be used to help interest students from minority groups in museum careers.

"We could think of no better way to honor Dr. Friedmann," Mr. Harrison said, "than to provide a means by which others might follow his distinguished career."

Details of the scholarship program are being developed by a committee co-chaired by Mrs. Justin Dart and Dr. Norvel Young, president of Pepperdine College. Both are members of the Board of Governors.

At the farewell salute by staff members, Dr. Friedmann became the first man ever designated an honorary Docent. Mrs. Leon I. Singer, chairman of the Docent program, presented Dr. Friedmann with a Docent Roundtable pin as a mark of this recognition.

After being subjected to some gentle ribbing about such pressing Museum problems as parking and elevators, Dr. Friedmann was presented with a radio, an attache case, and a set of original illustrations of some of the more rare "birds" he has observed at the Museum.

Earlier, at the monthly Alliance Board meeting, he received an original porcelain ceramic goldfinch by Boehm. Mrs. James F. LeSage, chairman, noted that the gift was prompted by the fact that Dr. Friedmann's wide interest in ornithology had led to his writing a book, THE SYMBOLIC GOLDFINCH. In the book, he traces the use and meaning of the goldfinch in works of art.

The Friedmann's immediate retirement plans involve a return to the East Coast where Mrs. Friedmann will complete work on a research project for the Department of Agriculture. After an indefinite stay with friends in the East, the couple expect to return to Los Angeles later in the year.

As a number of people have discovered, it is virtually impossible to summarize the contributions of Dr. Herbert Friedmann. In all the tributes paid him thus far, one quality seems always to be cited above others. It is his reputation as a gentle man whose wit and charm are a match for his academic accomplishments.

Clearly, an ornithologist whose pleasure seems to come equally from writing limericks or exalting the beauty of the goldfinch, is a man to be admired and envied.

Marine biologist Dr. Giles W. Mead has been named to replace Dr. Friedmann as Museum Director, effective June 1.

Dr. Mead is currently a curator at Harvard University's Museum of Comparative Zoology. He is also an associate in ichthyology at Woods Hole Oceanographic Institution. He has been at Harvard since 1960.

Born in New York, Dr. Mead earned his undergraduate degrees and his Ph.D. at Stanford University.

In the next issue of the QUARTERLY, we hope to provide a more detailed look at the man who will be guiding the Museum's future.

Symbolism of Cover: From Yugoslavia one learns something of the symbolic meaning of the foods. In Slovenia, the ham is said to represent the body of Christ, the wreath-shaped cake stands for the crown of thorns, red eggs stand for the blood Christ shed on Golgotha, the sausage for the wounds, and the horseradish for the vinegar and gall which were Christ's last drink. According to another report, Slovenians interpret the piece of lamb, which is always in the basket, as symbolic of Christ, the Lamb of God; the cake represents the crown of thorns; three pieces of horseradish are the three nails; a string of small sausages recalls the scourge, and five red eggs are the five wounds while the white napkin represents the winding sheet. In spite of differences, there seems to be enough agreement to cause one to wonder whether the traditional foods perhaps had similar meanings elsewhere.

Photo by Armando Solis
Napkin and eggs made and loaned by Mrs. Michael Holowaty.

Museum Spotlight

New Curator Bernard J. Fuller

Mr. Bernard J. Fuller arrived at the Museum in November to assume duties as curator in Geology-Mineralogy. Mr. Fuller is a graduate of Roosevelt College, Chicago, Illinois and received a Master's of Science degree from Heidelberg University, Heidelberg, Germany. His experience includes duties as product control chemist with Swift and Company, research and development at Edgewood Arsenal in Maryland, mineralogist for the Research and Productivity Council in New Brunswick, Canada, and research assistant in Mineralogy at the University of Heidelberg.

Mr. Fuller has had a long interest in Museums and mineral collections. He enjoys camping, photography, Boy Scout work, and especially wife Christa and two children, daughter Stefanie and son Derek.

The Earth Science staff heartily welcomes Mr. Fuller to the Museum and urges mineral enthusiasts to get acquainted with the new curator.

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LOS ANGELES COUNTY MUSEUM
OF NATURAL HISTORY
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THE UBIQUITOUS EGG

ITS MYTHS, SYMBOLISM AND DECORATION

by **Patricia B. Altman** Curator of Folkart Museum and Laboratories of Ethnic Arts and Technology, UCLA

The ancient origins of our Easter celebrations and the eggs associated with them are complex indeed. One must look for them in several sources: creation myths, death/resurrection beliefs, and other primitive Spring fertility rites.

In early Indian and Phoenician mythology the world was formed by the cracking apart of a World Egg which had been laid on primal waters. The earth developed from one half of the shell, the heavens from the other. The literature and lore of many countries describe the birth of a culture hero or deity from an egg. In Egyptian and Indian belief at various times, the World Egg was created by a primal being who then emerged from its shell. The egg floated in or on waters which, in some cases, the deity had also created. China, Japan and Korea had egg-born founders and deities too.

At the same time, the story of the yearly death and resurrection of a deity travelled through the ancient world from Sumeria to Egypt and the Greeks. Among the Hutzuls, a Slavic group living in the Carpathian Mountains, tradition tells that the blood of the crucified Christ fell to earth in the form of hens' eggs. As the Virgin wept at the foot of the cross, her tears spotted the eggs, and colors appeared.

This is but one of many European myths and legends recounting the origin of decorated Easter eggs. According to one Ukrainian tale, the Virgin Mary, in hopes of saving her son, colored many eggs as a gift for Pontius Pilate. Pilate refused her, and as she fell to the ground in a faint, the eggs fell from her apron and rolled to the ends of the earth. Ukrainians still decorate Easter eggs, believing that if they neglect this duty the world will cease to exist — destroyed by a chained demon whose bonds will be loosened by their failure.

With simple piety, remembering such stories, the custom of decorating and exchanging eggs is still carried on in some areas — gifts from mother to child, godparent to godchild, girls to young men and from friend to friend. The name of the god was Tammuz or Adonis or Osiris who died, spent part of the year in the underworld from which he was reclaimed by the intercession of an earth deity, his wife, the Mother Goddess — a cycle of death and resurrection to be repeated symbolically and in nature till the earth ends.

These beliefs, so close in some ways to the Easter story, were well known to the early church fathers who saw pagan mythologies as a foreshadowing of the coming of Christ and His death and resurrection. In some cases, however, the pagan cults were regarded as a parody of the Easter sacrifice which had been contrived by the devil to deceive Christians.

On a more ancient and primitive level, simple agricultural peoples observed the birth of new life from the smooth, seemingly lifeless egg shell and probably equated this phenomenon with the rebirth of vegetation in the Spring from dead branch and bare earth. Around this observation a large body of magical practices grew up dedicated to the preservation of the cycle of Spring following Winter and life renewing itself. From many areas come reports of the use of eggs to preserve and increase yield of herd and field.

In Germany eggs were buried in the fields, sometimes in the center and sometimes in the four corners, to ensure fertility. Among Slavic peoples an egg was placed in the first furrow or, even more significantly, actually plowed into the field by guiding the plow over egg and bread. It is closely associated with harvest ceremonies and was often hung on the last of the harvested crop.

Its magic functions include protection of house and barn from lightning and fire when buried under the doorsill. It guards against avalanche, protects crops from mice, and keeps herds from straying.

When eggs are symbols of agricultural fertility, they are also connected with the fertility of man and frequently figure in marriage ceremonies. Even more significantly are they associated with courtship customs. A Hessian girl awaited the coming of her chosen young man who climbed a ladder to her window and received 10 or 12 eggs

Lithuanian eggs Central Lithuanian eggs are decorated in batik and scratch techniques, both of which are included here. The former are usually done in geometric shapes made up of tear-shaped elements, which, nevertheless, have symbolic names. This is also the case in other countries, such as Romania, where abstract designs are clearly recognizable to the people.
Museum and Laboratories of Ethnic Arts and Technology. Gift of Dr. Marija Gimbutas

wrapped in an embroidered napkin. She gave eggs to other boys also, but only one to each. Among Croatian girls in Burgenland, Austria, a girl concealed the egg in her bosom and with only token resistance permitted her preferred suitor to search it out. Such an egg was always decorated with a heart or two, while the eggs she handed to other young men were undecorated or the designs did not include a heart. The custom, among Ukrainians and other Slavs of boys sprinkling girls with water on Easter Monday also had its fertility and courtship elements; very often the girl buys her freedom from being sprinkled by payment of a colored egg to the young man.

By extension, fertility also includes ideas of health and well-being, and the egg has countless uses in folk medicine. In various areas the eating of eggs was believed to help stomach cramps, to prevent lumbago and practically every other disease.

A connection between the egg and magic also has its medical aspects. In the Netherlands it was thought that if bodily secretions of a sick person were baked in an egg cake and fed to the dog, the patient would recover. An egg takes into itself all kinds of disease; if a fresh egg is rubbed over a child's broken limb, and then buried in the ground, the bone will knit.

Source of life, health and strength, eggs are strongly related to death and to burial rites. At Shrovetide they were carried to cemeteries in Russia and were eaten in German church cemeteries at certain times of the year in order to give new vital powers to the dead. In Yugoslavian Macedonia eggs are taken to graves to announce to the dead that the Easter season has come.

In ancient times eggs were eaten at death banquets and were placed in graves during the Etruscan period. Even earlier, representations of eggs in stone and pottery were buried with the dead.

From the burial of real eggs and representations of them, one knows the antiquity of some of the customs involving eggs, but not necessarily the reasons. Food for the dead? Offerings? Whatever the purpose, eggs were important long before Christianity was established. By the second century A.D., the egg had become a symbol of resurrection and hope in a future life among Christians.

Until recently the custom of decorating eggs has had a wide distribution, centered in Central and Eastern Europe, but most European countries used them. The notable exceptions are Spain, Portugal and Italy, where egg decoration was not much practiced. Egg decoration was also comparatively unimportant in Scandinavia, perhaps because of the relative scarcity of chickens, though the eggs of wild birds were eaten in the Spring to eke out food stores depleted by Winter.

Decoration of Easter eggs has one central theme which ties in with much of the eggs' history: the use of the color red. Red has long been regarded as the color of life and vitality. In Christianity it has become associated with the blood of Christ.

In many areas Easter eggs are colored red, but not otherwise decorated. Such red eggs are passed from friend to friend at the midnight Easter mass celebrating Christ's resurrection, almost always with the joyous greeting "Christ has risen" which is answered, "He has indeed risen". This is the custom among Greeks, Russians, Albanians and many other peoples, especially of the Orthodox Church.

Methods of decoration, as well as the colors and designs used, are often regionally dictated. Folkarts tend to be conservative and a craft is often very slow to respond to outside influences, particularly when objects of deep religious significance are involved. The isolation of some areas has contributed to this conservatism, in spite of wars, migrations and boundary alterations.

One can see a continuous design tradition running from Lithuania and Estonia south through some areas of Germany, part of central Czechoslovakia, Poland and western Jugoslavia. These are western Slavic regions and those where traces of original Slavic settlers still remain. The egg designs of these areas are figures composed of tear-shaped motifs so combined as to produce bands, star shapes and rayed circles (see illustration No. 1, P. 4).

Another tradition stemmed from the Ukraine and areas influenced by it, as some parts of Czechoslovakia and Romania. These designs are geometric and basically linear and rectangular (see illustration No. 5, P. 9) with the egg sectioned into eighths or smaller areas. When more rounded shapes were used, the egg was so subdivided as to resemble a mosaic.

The third discernible design grouping is the semi-naturalistic flower and nature tradition of Germany, Austria and parts of Eastern Czechoslovakia, where designs resemble printed fabrics rather than embroideries.

Motifs of the first two of these design types are more often symbolic than representational. Often those which represent actual objects are so abstract as to be recognized only by people who know the meaning. For example, in the Ukraine, a shape resembling a crude drawing of a comb, made up of a straight line with short straight lines descending from it at right angles and sometimes with a longer straight line extending up from it at a right angle, represents a rake, important in agriculture from which many motifs are drawn. The rake is similar on Romanian and Czechoslovakian eggs. Part of an animal often stands symbolically for the whole: a tusk in Romania represents the boar, a trident in the Ukraine is called "hen's foot", while spiral motifs in the same region stand for horns. If the spirals are curved upwards and towards one another they are specifically ram's horns. All kinds of vegetation are represented on Easter Eggs, occasionally recognizably, but more often symbolically or abstractly.

Styles overlap and in some countries two or all three of these co-exist side by side. In fact, two different styles may be worked by the same woman, as is the case with Anna Tillich, the famous egg decorator of the Lausitz Valley.

Only recently have commercial egg dyes been available. Originally, each woman gathered the vegetable substances from which she made her colors, and the roster of leaves, barks and roots used would be endless.

Red, the most common color, has been obtained from Brazilwood since the 16th century, as well as from the liquid of simmered onion skins to which vinegar was added. Onion skins used alone produced a yellow gold, pale or dark depending on the strength of the infusion, the duration of the dye bath

and, supposedly, the age of the onions. Among the countless other substances, green was produced from mint or sunflower seeds cooked in sour rye mush or the young bark of the alder tree. Black came from green walnut shells or old alder bark, for example.

As one can imagine, many rituals and ceremonials surround the actual making of decorated Easter eggs. Custom often dictates, in fact, who is permitted to do the work. In the Carpathian Mountains only virgins could decorate eggs in memory of the purity of the Virgin Mary. Very often, the use to which the egg would be put determined who would color it. A love gift was usually made by the girl who gave it; mothers made gifts for their children and a godmother for her godchild. Sometimes aptitude alone was the deciding factor. In Hungary and Czechoslovakia most villages had a specialist who was commissioned to do the work.

Decorating was often done in egg decorating "bees". Girls or women gathered together in Hessen, Germany, for example, to work together, and there was an exchange of patterns and the poems and sayings written on the eggs. However, in other areas secrecy was the rule, and methods of coloring and new combinations of designs were jealously guarded from prying eyes until publicly shown.

The decoration took place sometime during Holy Week, often on a specific day, Thursday, Friday and Saturday being most common. Eggs laid on Holy Thursday or Good Friday were particularly favored. In the Carpathian Mountains, eggs from young hens were the most appropriate. In this area, no impure woman was allowed in the house during the time of egg decoration, and all who entered said "God protect me from spoiling your work". Water used in preparation of the colors had to be obtained before sun-up, that is, before an impure woman would have come in contact with it.

Probably many other customs were usual in the decoration of eggs in various areas, such as that among the Hutzuls of gathering the leaves from which they obtain their yellow dye (genista tinctoria) before the feast of St. John which takes place on July 7 according to the Greek calendar. An author wrote in 1905, ". . . while making colors and drawing the designs, a great many rules and rites have to be observed, in order that these pisanki . . . may be without any witchcraft." The first egg decorated on Holy Thursday had special sacred significance in Yugoslavian Macedonia. It was done with special rites to assure fertility and health and was preserved throughout the whole next year on the fireplace to guard the house. Romanians decorated the first egg with the symbol for the plow "because in the Spring plowing is done first."

Elaborate decorations have been dyed, painted, etched and pasted on eggshells in many countries. Particularly in Eastern Europe, the custom still survives, though formerly its spread was wider, including most of Europe.

Batiked Eggs

The most common method of decorating is by the batik or wax-resist technique which reached its highest point among the Hutzuls of the Ukraine.

A fresh unblemished egg is chosen. On it areas are covered with wax using an implement called a "kistka" which is merely a small metal funnel fastened to the end of a stick. (see illustration No. 5, P. 9). Beeswax, scraped into the funnel, is heated over a candle. The molten wax flows through the little tube, depositing a thin line of wax on the shell. All areas so covered will resist the coats of dye and remain white. The egg is then dipped in a pale dye, often yellow for the first coat. Removed from the dye and blotted dry, further areas of the shell are covered with wax which will protect those areas that are to remain yellow, the egg is then dipped in a darker color, perhaps orange. The progression is always from pale dye through darker to black or perhaps dark red or brown. Only at the end is all the wax removed to reveal the "pysanky" — an egg which glows with color in elaborate geometric designs. Many of these are symbolic and abstract, though a few are readily recognizable (star, cross, for example). Recently naturalistic shapes have been used, especially among the many Ukrainians living in Canada. One finds deer, wheat and flowers among them.

Designs vary from area to area and are taught by mothers to their daughters. Pysanky are left raw as they are intended for gifts rather than eating. Ukrainians also decorate "krashanky", hard-boiled eggs which are dyed one solid color. These are eaten and used medicinally and as protective charms.

Among the Hessians of Central Germany the once prolific egg village of Mardorf now has only two egg decorators who batik eggs with two other implements. Delicate flower, wheat, grape and heart motifs (see illustration No. 6, P. 9), reminiscent of the fabric of local peasant dress, are applied with an old-fashioned steel nibbed pen dipped in wax kept molten over a spirit lamp. Rayed geometric shapes are formed by applying the wax with the head of a common pin whose point is pushed into a small stick.

Inscriptions appropriate to the season or to the recipient are also written on the eggs. The eggs, with the wax on them are boiled in dye using only one color for each egg, thus showing a white design against red or blue or green when the wax is removed. Today commercial aniline dyes are used.

One further implement is employed in the application of wax to eggs before dyeing. In the Lausitz Valley, both women and men among the Sorbs (a Slavic enclave which has been in Germany for centuries) apply wax with a goose feather whose tip is cut into simple shapes: diamonds, triangles, squares and circles which are combined endlessly to form geometric all-over patterns. For tear-shapes they, too, use pins stuck in rods. These eggs are cooked before being decorated, and are gifts from god parent to godchild. This can be an onerous task since a Sorb may have as many as 30 godchildren and must give an egg to each with a braided sweet bread and piece of fabric.

It is interesting to speculate about the date batik dyeing was first applied to eggs. Early records mention only that eggs were colored or gilded or painted. Was batik dyeing perhaps invented independently for egg dyeing in Europe before the introduction of that technique in the late 17th century when Siam sent a delegation to teach the craft to the French?

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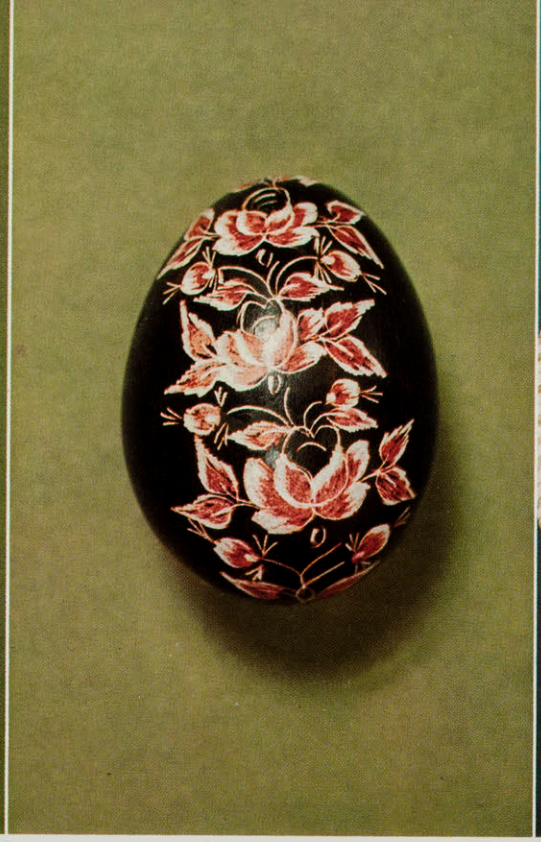

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Photos by Armando Solis

No. 2
Cascarones Easter eggs are still decorated in the old ways by people of foreign descent in various cities with large immigrant populations, but few of the customs have gained widespread circulation except the belief in the hare or rabbit as egg bringer. One general use of eggs still extant is the Mexican custom of hollowing shells and filling them with confetti. These are broken by boys over girls' heads in the general merrymaking which takes place during the pre-Lent Carnival. This custom had its origin in Spain and Italy.
Museum and Laboratories of Ethnic Arts and Technology, X69-761, X69-762.

No. 3
Hungarian egg An egg done in unusually delicate scratch technique and re-dyed with red over the black base dye. A second lighter dye coat is unusual, though also done in Moravia.

The scratch-technique eggs of western Hungary are a comparatively recent innovation, and usually carry quite realistic representations.
Private collection

No. 4
Croatian eggs Burgenland, a province of southern Austria, has many inhabitants of Croatian descent who still cling to their old customs. These eggs were decorated by Frau Maria Grandits who "scratched" the designs with a razor. They are displayed in a Burgenland basket customarily used for storing eggs.
Museum and Laboratories of Ethnic Arts and Technology, X68-3562

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No. 6
Hessian eggs In the Hessian village of Mardorf only two women still decorate Easter eggs: Frau Anna Schick and her daughter, Frau Regine Benner. Both work with the ease and speed of masters, holding a raw egg in their left hands as they draw the wax designs with a pen or pinhead in their right hands. Areas are delineated with garlands or bands of flower or grain designs. The remaining white sections are inscribed with little verses selected from about 250 in a small handwritten notebook. The egg in the foreground reads, "Be like a sundial and count only the sunny hours — Happy Easter 1968." Museum and Laboratories of Ethnic Arts and Technology, X68-3566

No. 5
Ukranian Easter eggs
Jewels among Easter eggs, the Ukranian pysanky shine with the glimmer of the lacquer which coats them and with brilliant colors set off by the final dark color (often black) in which they are usually dipped. Museum and Laboratories of Ethnic Arts and Technology, X68-47, X68-48, gift of Mrs. Maria Kostiw.

No. 8
Yugoslavian egg An acid-etched egg made by Ilija Babíc in a small town near Sarajevo, Bosnia. Both batik and acid-etched eggs are made in the same town. Museum and Laboratories of Ethnic Arts and Technology, X69-763, gift of Judy Rasson.

No. 7
Croatian egg-making
The implement used in scratching colored boiled eggs "must be steel," according to the decorator, Frau Grandits. In most cases, a broken straight-edge razor is ground down and used with a rag wrapped around the metal handle to protect the hand. The thumb of the right hand is firmly pressed against the egg while the other four fingers manipulate the razor in carving through the color to the white eggshell to form realistic designs from nature or religious motifs according to the fancy of the maker. Museum and Laboratories of Ethnic Arts and Technology, X68-3562

Object Resist

Another form of resist dyeing is practiced in several places, notably Steiermark and the Tirol in Austria, and also Greece, Estonia and Slovenia. An actual small leaf, grass or flower is pressed to the egg shell with the help of oil, then bound with thread or a piece of fabric. During the dye bath, the shell is protected from color in those areas. Upon being unwrapped, the shape of the flower or leaf shows in white against the colored egg.

Scratch Technique

Perhaps the second most widespread among decorating methods, "scratching" is found in several areas of Germany, in Austria, Lithuania and Hungary among others.

In the hamlet of Stinning in Burgenland, Austria, women of Croatian descent decorate eggs by this technique using only three colors, (see illustration No. 4, P. 8), red, blue and black. The first two are produced by dipping hard-boiled eggs in commercial colors. Since before the turn of this century the black has been applied by painting the still-hot eggs with shoe dye.

On the colored eggs, which are called "pisanice", the design is cut through the color to the white shell using the point of an old straight edge razor. Designs such as pussy willow, chicks, hearts and crosses are made by holding the egg firmly in the left hand, resting the thumb of the right hand on the egg (see illustration No. 7, P. 9) and guiding the cutting edge with the other four fingers.

Here a godmother has the duty of giving one such egg to each of her godchildren with a large cake called Semmel. Women also give them to their own children. The *pisanice* can be made any time during Holy Week. They were until recently also used as love tokens. A girl gave one on Easter to her favorite young man. Since this was virtually a public declaration of love, she waited anxiously till Easter Monday to see if he would give her in return a *lebzelt* (gingerbread) Hussar as evidence that he loved her. She felt that she had made herself a laughing stock otherwise.

The designs cut in the shells are similar to those painted or carved on the local peasant furniture and embroidered on fabric. The patterns are regional, but a woman is free to use any design. Girls learn the craft from their mothers.

Perhaps the scratch technique reached its highest development in the Lausitz Valley in Eastern Germany, where 4 to 6 hours may be devoted to the decoration of one egg.

Etched Eggs

Now falling into disuse (mostly because of hazard to health), the technique of etching designs on eggs with acid was practiced in many regions of Europe. Etching was popular as a rapid way of decorating, but had the disadvantage of being difficult to control. The acid, whether dilute muriatic or nitric acid or even the weaker vegetable acid of sauerkraut juice or vinegar, continues eating the color even to the point of destroying the design unless checked in time.

In Yugoslavia, a Bosnian woman dyes eggs with commercial colors or using the old method of vegetable colors. The most common of these is the rich gold produced by boiling onion skins in water.

A woman sitting on one of the local low chairs dips a toothpick in acid and draws designs on the colored shell. Almost immediately the acid begins to eat away the color. If unchecked, this action spreads beyond the desired area, so after drawing a small portion of the design, she wipes the egg on her apron or even on the carpet, then continues to draw further. Characteristically, an acid-etched egg has slightly fuzzy design areas (see illustration No. 8, P. 9).

In other regions (Bavaria, for example), the acid was applied to the colored shell with a pen or a quill. A reverse technique was employed in Moravia, Czechoslovakia where a combination of wax-resist and acid techniques produced a colored outline on a white shell. The dyed egg had areas protected by wax in the usual manner. Then the whole shell was briefly dipped in vegetable acid whose action ate away all color. After removal of the wax, all protected areas were still colored.

The most unusual form of this technique is that which was carried on in Steiermark, in Southeastern Austria where an egg was colored with onion skins, then deposited in an ant hill where the ant acid etched meandering designs on it.

Applied Decoration

Many substances have been applied to egg shells for decoration, from ribbons to straw, metallic paper, colored paper, wax, fabric and even the pith of reeds.

Poland's eggs have recently had bits of cutout colored paper applied to them in much the same style as the paper cut-outs depicting roosters, trees, peasants, etc. which are used for decorating peasant homes.

In Germany in the Spring when the pith of a certain reed is easy to extract, eggs were decorated by applying bits of bright fabric to the shell, then winding the egg with intricate spirals, bands and circles of the white pith. This technique is still used in Pennsylvania by the Pennsylvania Dutch who brought the custom with them from Germany.

Wax is used not only for wax-resist on Easter eggs, but in some regions (the Lausitz Valley, and two different parts of Czechoslovakia) it is also applied to the shell as final adornment. The wax is colored (soot for black, brick dust for red, for example), applied with a little stick or with the same kind of a tube used in the Ukraine, called a "stuźka" here. The final effect is a low relief in colored wax.

In Moravia, Czechoslovakia, straw is slit, flattened and cut into small shapes, such as rhomboids, triangles, etc. and glued to the eggshell in all-over geometric or plant patterns.

With such wealth to draw from, with such traditions, only hinted at in this article, of loving and artistic creation in the decoration of Easter eggs, one can be forgiven a sigh of regret that the average American child is content with plastic eggs filled with ten cent store candy. His life is the poorer for knowing eggs only with uncreative transfer patterns on palely tinted commercial colors. The very meaning of the Easter egg is lost. We have forgotten.

RARE TANZANITE ON DISPLAY

by **Douglas J. Macdonald**

The gem and mineral collection of the Los Angeles County Museum of Natural History has recently been enriched by the loan of two superb examples of the new gem mineral Tanzanite. The natural crystal weighs 220 carats and is one of the finest specimens ever to be recovered. The facetted stone weighs approximately 63 carats. Cut in this country, it dramatically displays the magnificent beauty of the colors inherent in this material. As befits an important stone of this size and quality, it has been given a name — The Blue Dragon. The crystal is part of the E. Hadley Stuart Collection which was described in detail in the QUARTERLY, Summer issue 1969. Both pieces are currently on display in the main foyer of the Museum.

Tanzanite is actually a gem form of the unspectacular mineral zoisite. Until the discovery of these beautiful stones near Arusha, in Tanzania, Africa, about three years ago, no one suspected that this ugly duckling could suddenly turn into such a fashionable swan. Cut Tanzanites may now be found in the finest jewelry stores, and command substantial prices. This stone is the first new material suitable for gem-cutting to be located in the past fifty years. Its mining production has been surrounded with theft and intrigue.

Manuel d'Souza, a native of Goa, India, was the first to stake formal claims and get the mining started on a commercial basis. From the beginning he was harassed by 'high-graders' smuggling gem material out of his mine. Claim-markers moved mysteriously in the night. Leopards, bandits, and Masai warriors added to the general excitement in the area. d'Souza himself was killed in an automobile accident in the fall of 1969, and his sons took over the operation of the mine. Because of the smuggling and general exploitation of the venture, the Tanzanian government was forced to step into the matter, and the future of Tanzanite mining is unpredictable at this time.

Mineralogically speaking, zoisite bears the formidable title of calcium aluminum silicate. The gem-form, Tanzanite, closely resembles epidote in crystal structure. It has a hardness of 6-1/2-7 on the Moh scale; a specific gravity of 3.36; refractive indices of 1.69-1.70; and is strongly pleochroic due to traces of vanadium. Viewed down the long axis of the crystal it is a brilliant blue. Through the wide side it appears reddish-purple, and through the narrow side one may see a yellowish hue. Stones are generally oriented in the rough material so that the gorgeous blue color, which resembles that of fine sapphire, is predominant.

When first brought to the attention of mineralogists the material was suspected of being cordierite or dumortierite. Using X-ray diffraction analysis in their Los Angeles laboratory, officials of the Gemological Institute of America positively identified the mineral as zoisite. Testing by other mineralogists has confirmed the original findings. Tanzanite contains a variety of inclusions, most of which are visible only under the microscope. However at least one 'cats-eye' cabochon has been cut from a piece of the material which contained many closely packed needle-like inclusions. Some cutters advocate the heat-treatment of finished stones in order to diminish the reddish-purple tones, thus enhancing the more desirable blue color. This opinion is not, however, universally accepted and neither the crystal shown above, nor the Blue Dragon has been 'heated'. Their spectacular beauty is intrinsic, unaltered, and a joy to behold. Make seeing our new treasure a 'must' during your next visit to your museum.

SPIKE TEAM AND BOE FRAME

by **John Dewar**
Associate Curator
Western-American Art

One of the real problems in regard to the history of the Negro in America is the dearth of material, especially as it relates to the work of a museum. By nature of their exhibits, museums deal to a large extent in so-called three-dimensional materials or, plainly speaking, in all the things one sees in cases illustrating a certain subject. But a people who do not own themselves aren't going to own many possessions, so it is only logical that little in the way of keepsakes would ultimately sift down to museum collections. Old newspaper advertisements for runaway slaves, bills of sale for slaves are relatively common — but little else.

One day, I had a telephone call from a lady who told me she had some things to show me, mementos from her family, and I made arrangements to see them. Mrs. Elizabeth York had not only kept these precious fragments which connected her to the past, but she remembered clearly what they were: a worn silk shawl, given to her grandmother with her freedom — for she was a slave — by her "missus," and a photograph. But, here let Mrs. York speak for herself in the way she wrote it down. And if some of the lines sound for all the world like the true expression of folk verse, don't be too sure that they are not.

The lead animal in this picture is an oxen, called Sam.
The oxen on the right was called Buck.
The animal on the left is a bull, his name was Bull.
My brother Vodurey is riding the bull.
My Grand-Father Green Henry is standing at the head of the animals.
The vehicle in the picture is call a Boe-Frame, it was used for hauling fodder. We lived 60 miles from Asheville at this time, and grand-Father would haul his fodder to Asheville on this vehicle, with this spiked team, as he called it.
This is a true and authentic history of this picture as told and witnessed by the Grand Daughter and sister of the man and boy in the picture.
To whom it may concern, I Elizabeth York, know this to be a true picture of my grand-father and oldest brother, with grand-father's spike team, of oxen. Taken in the spring of 1884. in the front of hotel Swananoa. In the Town of Asheville North Carolina. and was located in Main Street. at that time.
The people standing in the door way, are guest of the hotel, at that time. This was the best hotel in town at that time.
There was snow on the ground, as snow had been falling the day, this picture was taken.
The name of the man in this picture is Green Henry.
The name of the boy in this picture is Vodurey Henry.
It took eight days to make the trip at that time, over cobbled stone streets.
Fodder sold for 3 cents a bundle, which was quite a price in those days. This was the price in Asheville. Other communities the price was less. These oxen did not wear yokes, they wore harness. This vehicle was the invention of my Grand-Father, and was built by him alone. The bull and oxen were raised on what was known as the Glade Farm. which was located at the head waters of Burns Creek. the nearest road leading to the farm was called the Turn Pike. the nearest Post Office to our home was 3 miles away. In a town called Money North Carolina.
This is the one, and only picture, that is authentic, taken of the men, oxen and vehicle, at this time.

(Signed) Mrs. Elizabeth G. York

September 30th, 1950
Los Angeles, California

The family lived on a very large farm, consisting of three plots of land, the first plot was one hundred acres, the second twenty five acres, the third plot five acres.

Our home was a log cabin, the type of furniture used was provincial. the family ocupation was farming. on our farm, was cattle, hogs, sheep, wheat, rye, oats and vegetables. the farm was more like a supply center. My Grand Father was a dray-man, he hauled the produce to the city for sale.

the cart that was used to haul the produce, was called a boe frame, which

was pulled by oxen. Oxen were used because they were more sure footed for this mountainous country. we also raised corn on the farm, and my Grand Father would haul the fodder to the city to sell. he received quite a good price for it at that time. the fodder was used to feed live stock, and brought 3 cents a bundle. the corn was sold by the bushel, or sometimes by the wagon load.

my Grand Father owned three oxen, which was called a spike team.

all the farming was done with these oxen. there was very few horses used at this time. these oxen were the principle mode of transportation for my Grand Father. most of the other people used horses. most of our land was mountainous, which horses could not climb very well, so that is why the oxen were used. My brother was an Army man. that is my oldest brother. his name was Vodery Henry. he served under Theodore Rosevelt's command. during the Spanish American war. this was before Rosevelt became president. my brother served in the 9th and 10th cavalry, as a first seargent, he was with the cavalry, when they took Sanjuan hill. He enlisted in the army in New York city and had continued service from 1892 reinlisting after each hitch until January 16, 1921, 32 years 8 months and twenty days. He retired after over thirty years service, as a First lieutenant.

My sister Josephine, the oldest of the girls, raised quite a family, 12 children. My sister Cornelia the youngest of the girls, raised 8 children. Vodrey the oldest brother raised one daughter. James the youngest brother raised three children. I will give the names of some of the children. Josephines' children, Geneva, William and Wesley. Cornelia's children, Christine, Thelam, and Jerry. James children, James Jr., Howard and Helen. Vodrey's daughter Renita.

The school was three miles from our house, it only lasted three months of the year. The months we went to school were August, October, and November. in the hills of North Carolina, the reason that we did not have a longer period of school was, because we had to plant and harvest the crops. This was known as free school.

There were schools in town, but they were pay schools, and you could go as long as you had the moeny to pay, we seldom had money to pay for school. School teachers at that time received $30.00 per month. one of my sisters paid $5.00 per month to go to school. at this time, the average laborer earned 50 cents per day on the farm. eggs were 3 and 5 cents per dozen, butter was from 10 to 15 cents per pound. you could buy a whole ham for $5.00 slices bacon 8 cents a pound, wool off the sheeps back 6 to 7 cents per pound, we grew our own wheat, to make the flour that we used. we would take one bushel of wheat into town to be ground into flour, and bring back one half bushel of flour, corn for corn meal the same thing. all grains were water ground. there were no electricty or steam power, everything was water power.

The girls in the family did all the carding and weaveing and spinning to make the cloth for the clothing. also they were required to work in the field attending the crops. all clothing was made by hand. We made our own chese, and yeast for bread was made from the hops grown on the river banks. we made our own soap, as soap could not be bought near our home. we used wood ashes from our fireplace to make the lye for soap, as this soap and sand was used for scrubbing the floors, which was done on our knees. in order to get woolen clothes, for it was very cold in North Carolina and we had to have warm clothing in the winter. we would card and spin the wool into thread so that it would be made into cloth for clothing. to make our cotton clothes, hanks of cotton were brought from town and mother wove them into cloth, then made our clothes. Grand Fathers socks were made from wool from the sheeps back.

We wore woolen dresses to keep warm. made by our mother. If Grand Father had a good summer, he would have the wool spun in town, this would save mother a lot of work. then she would only have to weave it at home. the weaveing was done by a machine completely controoled by her feet and hands which was quite a job. shoes were made from leather from our cattle. Grand Father would take the leather into town, and have it tanned, then a man came to our house and made the shoes. sheep skin tops and calf skin bottom all hand sewn.

The nearest church was ten miles away. We received mail, once a week. horses were used to deliver the mail, this was called the pony express. if the weather was bad, the mail would not be delivered for two or three weeks. some mail men were known to have frozen to death trying to deliver the mail.

there were horse and buggy or oxen teams, used to travel from town to town.

We were an isolated family, considered a wealthy family. of those day. we hired people to work on the farm, paid them 50 cents a day and one meal. we raised our own tobacco. and some of the men would take tobacco instead of their 50 cents wages. My Grand Father bought sugar, coffee and salt by the sack, usually by the 100 pounds. he would bring home flour in the fifty pound bags. we raised walnuts for sale. we raised and dryed apples and other fruit in the summer to take to town for sale in the winter. in November he would take apples, walnuts and peaches into town for sale at christmas time. Mother made what was called leather britches from string beans which was taken in town for sale. he would bring large cans of lard home, after he had killed hogs. the fat from the hogs was used to make the lard.

this is a part of the method that was used to kill and prepare live stock in those days. we would get kerosene barrels, and saw them in half to form tubs to scald and skin hogs and cattle. these tubs held ten gallons of water each. First part to be scalled would be the head and shoulders, then the bottom part next.

the largest hog that I can remember was 300 pounds. the water was kept boiling at all times, during this operation. there was a scaffle built to lay the hog on when taken down from the try pod. it took four men to handle a hog, this was for taking hair off skinning and butchering the hog.

there was usually 3 or 4 hogs killed at christmas time, as this was a kind of community project. every one in the community helpted at this time.

Miniature basket, coiled in natural fibre with green design. Rwanda. 6½″ x 3½″.

Miniature basket in process. Rwanda. 2½″ x 1½″.

Gourd covered with fine, close beading in rose, dark green and white accented with black and dusty pink, sewn top and bottom to gourd. Tubular beaded handles and cord. Gabon (?). Congo. 7½″ x 5¼″.

Leather covered metal cigarette box. Stained two shades of brown. Animal design. Sierra Leone.

Raphia "velvet", mustard, black and natural. Kuba, Congo. 25″ x 28″.

Museum and Laboratories of Ethnic Arts and Technology, UCLA

THE USEFUL ARTS OF AFRICA— THEIR METHODS AND MATERIALS

by **Sage Culpepper Belt**

The study of folk art in Africa, the useful arts of the people, cannot be satisfactorily pursued in books on African art, for these books concern themselves principally with sculpture — with masks and figures. To learn something of the other arts, of the techniques and materials used, one must collect the information, often a line or two at a time, from records of observations made by early travellers.

Journals were frequently kept by missionaries and governmental officials who carefully noted many details of the daily life around them. More recent information lies waiting in anthropological and botanical studies, and from all of this it is possible to begin to answer the "how" and "what" of African folk art.

Gourds are among the first materials used by man for his containers. The gourd is common to both America and Africa and was equally present on both continents prior to Columbus. Scientists have proved that the gourd seeds are still viable after the gourd has been in water 242 days. Thus gourds could have been distributed by the currents of the sea.

There seem to be several types of gourds used for calabashes. The major ones mentioned are *Lagenaria siceraria, Cucurbita pepo* and *Cucurbita maxima. Lagenaria siceraria* is the common bottle gourd with a thin skin. *Lagenaria* has white flowers, soft foliage and is common to all tropical lands. Though it is usually too bitter to eat, in some forms the young shoots and leaves and the tender young fruit can be used as a vegetable. It is primarily grown for the shells of its fruit which can be used for ladles, floats, pipes, masks and musical instruments, such as drums and xylophones. Small ovoid gourds, in graded series, containing cobwebs in different quantities, form the resonators of the native xylophone.

Cucurbita pepo, the summer squash or pumpkin, whose earliest use is dated archaeologically in northern Mexico at about 7000-5500 B.C., was widely distributed from that area as far as the eastern seaboard of the United States. It is now found in much of Africa and is a coarse ground trailer with harsh foliage and stems and rather large golden yellow flowers. Its pulp is eaten

as a vegetable or in soup; often it is dried. The young leaves, fruit — and sometimes its flowers also are grown as pot-herbs. Its gourds are a common domestic utensil and they are frequently carved. The gourds of *Cucurbita maxima* are the largest known cucurbitaceous fruits. This family yields such vegetables as the cucumber, melon, squash and pumpkin. They come in various sizes and shapes with surfaces of different colors. Two members of the *Bignoniaceae* family are also mentioned as useful for making calabashes. They are *Crescentia cujete,* an East African plant, little cultivated, which produces large globular or oval gourds; and *Kigelia aethiopeae,* whose fruit is used for cups, ladles, and for a kind of mouse trap with bait and a noose!

Gourds are prepared for use in several ways. To achieve the desired shapes they may be bound with bands or gently molded by hand from time to time during the growing period. When the gourds begin to harden and the tendrils near them begin to shrivel, they are cut and hung or stood in a well-ventilated place. Thick-skinned varieties are much more difficult to cure and care must be taken to avoid bruising them or they will rot. Openings in thin-skinned gourds are cut when the gourds are mature but not thoroughly dried, a technique which hastens the drying process.

In Africa it is also a custom to place the ripened fruit in a stream or waterway until its contents are rotten. Its seeds and pulp then are removed and it is dried in the sun. During the process it often becomes bloated, but upon drying it hardens so that its surface can be worked like wood. If thick-skinned, it may be carved fairly deeply and either left its natural color or dyed. Gum made from the pods of *Acacia campylacantha* is mixed with color to make pigments for painting the designs. Sorghum is used to make a red dye and if natron is added the color will be black. Natron is a mineral of hydrous sodium carbonate often found crystallized with other salts. The basic color of many gourds is a warm yellow, but if a white surface is desired the cuticle, or thin outer membrane, is removed. A decoction of millet leaves produces a rosy color. Other dyes offer many alternatives. Even without added color the basic textures and shades of all gourds are attractive.

There are a number of different ways to decorate a calabash. One of the simplest is that of incising a design with a sharp tool, essentially comparable to engraving. Either the background or the design is covered with a texture of fine lines, often crosshatched. Sometimes the background is blocked in with tiny dots made with a heated needle. Contrasts are accenuated by rubbing a pigment into the lines or dots. An amplification of this technique is the inlaying of tiny white beads into the pits made by the hot needle. A second decorative technique is carving low relief on thin gourds, fairly deep on the thick-skinned. The artist may choose to carve away the background or the design, effectively accenting various areas by color contrast and texture. Another method is the practice of scraping away the thin outer skin to produce contrasting color areas. A heated flat blade which lightly scorches gives a black or dark brown hue to parts of the design.

Designs cover the range from complete abstraction to a degree of naturalism, depicting plants and animals, humans and their everyday activities. Some of the most interesting are those with impressions from contemporary life.

Gourds for special purposes often are decorated with beading. In South Africa small gourds in an hourglass shape are sometimes encased in a network of beading. They are given by the Zulu as lover's gifts and the colors used in the beading are symbolic of the message conveyed. Tall, long-necked gourds, often with decorative plugs in bird form and completely covered with complicated geometric beading, come from the Cameroon region of equatorial west Africa. Many calabashes are embellished with a simple string of beads or seeds, or perhaps several cowries. Plaited grass fibers or leather cords encircle necks and secure basketry or fibre plugs. Sometimes these cords are made into slings for the containers. African folk art is rich in "mixed media". Techniques enrich one another and the artistic vocabulary when used in this manner.

Beads are a field for study and enjoyment. Glass beads have been imported into Africa since the early centuries of the Christian era. Many beads were brought to the east coast of Africa from Asia, and archaeologists are able to identify beads of Indian manufacture because of their phosphoric acid content. Ancient Indian beads often contained lead as a fluxing agent as did the early Chinese beads, which are lead-barium-silicates, in contrast to Mediterranean glasses wich are soda-lime-silicates. Thus they afford a helpful clue for the archaeologist.

Tastes in color, size, and type of bead varied widely from people to people, thus causing many a lament from explorers and travellers who used them for payment and trade. One explorer complained that it took a considerable number of the men in his safari just to carry the beads needed for wages and bartering, and cited an example of one group who exhausted their store of acceptable and desirable beads two days short of their destination, thus endangering the whole enterprise!

European beads brought by the Portuguese and other traders came from a number of different factories, including those in Venice, Czechoslovakia and Amsterdam. They are of many colors and shapes and include the larger tubular composite beads with an eye-like motif, which were much in demand.

Beads were used to decorate baskets as well as gourds, and basketry, of course, is one of the most ancient folk arts. It is believed to precede both weaving and pottery. In Egypt, evidence of basket-making dates back to Neolithic times and suggests that certain materials have remained popular in Africa for seven thousand years or more. Among the earliest basketry materials found in Egyptian tombs is the leaf of the common Date Palm *(Phoenix dactylifera),* which is still being used for all types of containers. In addition, two grasses used for the finer ancient wares are also still in common use: *Desmostachya bipinnata,* a desert fodder common in the French Sudan, and *Imperata cylindrica,* a wild grass used today in West Africa for thatch, mats, cowry bags and baskets.

The earliest techniques are the same as those used today, plaiting (or weaving) and coiling. Within this framework are variations and refinements using plain or twill weave, and others achieved by twisting or twining the horizontal wefts over and under the vertical warps; in coiling, one uses different kinds of stitches to sew the coils together. By exploiting different weights, kinds and sizes of fibres, and by alternating colors and including such other materials as leather strips, the weaver has a great number of possibilities at hand. Indeed, much of the delight one feels in examining African basketry comes from the discovery of an ingenious use of everyday and exotic materials.

Tough, light in weight, baskets are highly versatile everyday containers. Forms are often both beautiful and exciting. Carefully woven lids, bands or bases may add a decorative and useful accent to containers made of clay, gourds or leather.

Clay bottles frequently have a woven cover to make them less breakable. Widely distributed in Africa, basketry masks are used for rituals. Among the most colorful types is a Dyola helmet covered with pitch (a tar-like substance) in which are embedded rows of seeds alternating with serrated palm leaves. These handsome seeds *(Abrus precatorius)* are red with a black spot and are often used for necklaces and bead work. Other seeds collected for embellishment include the brilliant scarlet seeds of the coral tree *(Erythrina)* and the hard black seeds of the wild banana *(Musa schweinfurthii).*

Baskets are sometimes embellished with other materials. A few are completely covered with row upon row of small white cowry shells, creating a rich allover decorative surface. This particular cowry *(Cypraea moneta),* is known as the money cowry in parts of Asia and Africa because in Africa it was a unit of trade along with beads; it is frequently found on artifacts. People of the Somali coast of East Africa produce very distinctive basketry which is often decorated with shells, glass or metal beads, and intricate woven patterns in red and black, pink and purple. In Rwanda, gently flared conical baskets, beautifully constructed, with peaked-hat lids are found in all sizes.

Materials for this craft are widely available in Africa and include leaves of other palms besides the Date Palm. Some of those recorded are the Wild Date Palm *(Phoenix reclinata), Elais guineensis,* known as the Oil Palm because its fruit is one of the chief sources for edible and medicinal oils, and the African Fan Palm *(Borassus aethiopum),* which is another source of palm oil and whose sap, when fermented, is said to produce the finest palm wine.

The leaves of these palms are split into "ribbons" of fibre of the needed width, then sun-dried and stored. They are soaked just before they are needed to make them pliable and easy to work. The midribs of the leaves are used for the coiled part of a basket, if coiling is used, or to add strength to the body of the basket. Perhaps one of the most interesting of the palm materials is that from the Bamboo or Wine Palm, once called *Raphia vinifera* or, in other accounts, *Raphia ruffia.* It grows in moist places near rivers and is used for making bags, hammocks, to decorate masks and to make the marvelously intricate raphia "velvets", a fabric made of raphia with a velvety pile. Raphia fibre consists of long thin strips of cuticle removed from the upper surface of the young unexpanded leaves. It is simply peeled off, dried in the shade and stored for use.

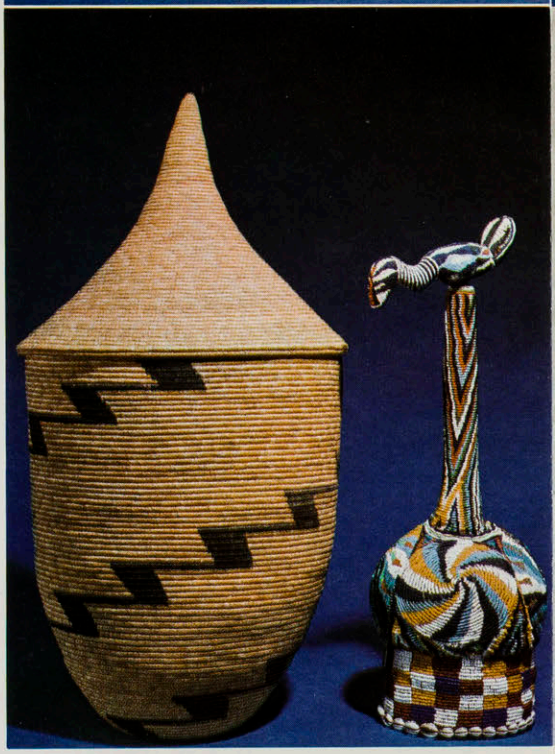
Besides native grasses and reeds, other sources for materials include: the Coconut Palm, Pandanus (Screw Pine), Banana, Bamboos, Papyrus and the Mangrove *(Rhizophora mucronata),* an important species which is the chief source of a non-fibrous bark containing up to 40.8% tannin. Its split seeds and sap are also used for waterproofing fishing lines.

The African continent is rich in dye materials and for centuries these dyes have been used for dying fibres for baskets, as well as for cloth, leather and calabashes. A bewildering array of trees, shrubs and vines produce dyes and tanning materials. A common procedure in dye making entails crushing or shredding some part of the plant — bark, root fibres, pods, flowers, or leaves — and simmering it in water. A mordant, frequently plant ash, is often added before, during or after the dye-bath. Common red dye-woods are *Pterocarpus erinaceus* or *P. soyauxii* (the Barwoods of commerce) and *Baphia nitida,* popularly known as Camwood. These woods are articles of trade and the product *tukula* is prepared from their pulverized red wood, mixed with oil or water and fashioned into little special-shaped cakes of pigment with incised or carved designs. The red pigment is rubbed on to the body for decoration and it is often rubbed on to special objects of clay or carved wood as well.

Red dyes are obtained from the seeds or bark of a number of the Acacias and Terminalias (which also yield red-browns and black), from many of the Rubiaceae, the Madder family which includes coffee and the gardinia, and from *Sorghum vulgare,* popularly known as Guinea or Kafir corn. All varieties of Sorghum can form a red dye, especially when the plant has received an injury. It is used throughout Africa for dying mats, leather and other materials and produces yellows as well as reds. Many of the dye plants give several different colors, depending upon the part of the plant used and the mordant.

Blues are available from both *Indigofera tinctoria* and *I. arrecta,* the latter a native of East and South Africa; it is said to be the richest source of indigo anywhere. A blue dye also is produced in East Africa from *Cocculus hirsutus,* a climbing shrub whose fruits are simmered with those of *Acacia subalata* to make a dye. In Togo the leaves, flowers and twigs of *Landolphia florida* are crushed with water, made into small balls and dried. When needed, they are placed in water to soak for three days to make a dye-bath. Before adding the cloth, a mordant, lye of freshly burned wood of *Cussonia barteri,* is added until the taste is bitter.

Oranges and yellows are derived from the stem and branches of *Harungana madagascariensis* in both East and West Africa. This dye is used for creating the traditional bark cloth belts of Nyasaland. Mixed with powdered Camwood it gives a brown color. The late flower buds of the cotton plant *(Gossypium spp.)* produce a yellow dye. Both a red dye for cotton and a



Top
Orange glass Czechoslovakian beads with tubular composite beads (Venetian) in blue, black and yellow. West Africa.

Carved, lidded calabash. 9″ x 9″. Nigeria.

Resist dyed cotton in indigo brown and black. Sierra Leone.

The Egg and the Eye

Left to Right
Necked gourd with scorched or stained design. Twisted fibre cord at neck. Uganda, west of Lake Edward. 9″ x 6″.

Gourd with decoration of animals, outlined with inset white beads. South Africa (?). 8¼″ x 6¼″.

Gourd with scorched design. Neck pierced and sewn with grass design. Finely woven basketry plug. Uganda. 8″ x 6½″.

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Left — Large basket, coiled. Rwanda. 29″ x 14″.

Right — Beaded ceremonial gourd with bird stopper and cowries at base. Cameroons.

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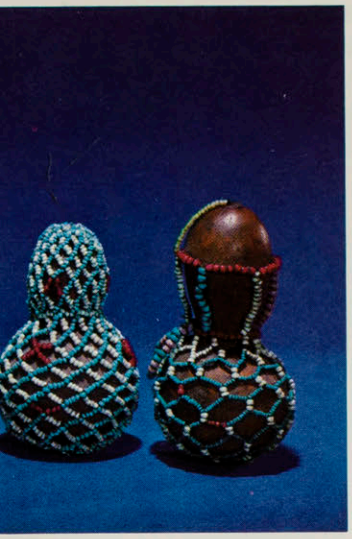

Photos by Armando Solis

Top
Left to Right
Gourd with closely beaded covering in white with black, blue and red accents. Beaded stopper topped with pearl button. Zulu, S. Africa. 6½″ x 4″.

Goatskin bottle, brown and white fur design applied over rawhide. Hausa, Nigeria. 7½″ x 5″.

Small gourd covered with network of blue and white beads with red accents. Zulu (?), S. Africa. 4½″ x 3″.

Gourd covered with open network of blue beads accented with red, white and rose. S. Africa. 5″ x 2½″.

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Top
Front — Glass bottle covered with beading, brass bells at base. Bottle 12″ x 4″. Congo.

Left Rear — Ceramic jug covered with stained leather. Horizontal bands of grass woven in twill and plain weave. Sierra Leone. 7½″ x 5″.

Right Rear — Lidded basket, finely constructed and lined with pitch. Cowry decorative bands with red bead. Somali. 12″ x 7″.

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Left to Right
Coiled basket covered with rows of cowries. Lidded and with leather on rim and base. Congo. 11″ x 5″ overall.

Amulet. Leather covered cylinder with 1 leaf-like design sewn in fine grass or quill-work (?). N. Africa (?). 5″ x 1½″.

Gourd with wooden figure, bedecked in white beads, for a stopper. Zambesi. 10″ x 5½″.

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red stain for leather come from the flowers, leaves and twigs of *Gossypium arborem.* In Dahomey this particular cotton plant is grown especially for its flowers which are used in the preparation of a black dye for leather.

Leather, in Africa, is used alone or in combination with other objects. This is because the African looks at his materials with a fresh eye. The African employs leather for shoes, sandals, clothing, bags and containers, mats and other mundane objects. More exotically, leather is used for covering masks, making shields, enfolding war clubs and powder horns. In leather work many kinds of skins are used, and it is worked in both the cured and rawhide state. Leatherwork, except in a limited way, seems to be a male monopoly. Decoratively speaking, leather may be dyed, embroidered, incised, painted, sewn, woven and appliqued. There are four major ways of tanning leather: by smoking, with mineral substances, with fats or oils, or with vegetable materials. The last three have all been used in Africa. Use of the mineral Alum, (a double sulphate of aluminum and potassium) which was produced in large quantities in ancient Egypt, gives a soft white leather.

Two other methods of curing are more often used than Alum. One is with vegetable materials, frequently infusions of pods or bark containing a high percentage of tannin, and another utilizes fatty substances. An account reporting a method of tanning in Zululand in 1914 describes the staking out on pegs of the fresh skin, well soaked in water, its careful scraping and a procedure using a block of wood with nails protruding from it to gently score and nap the fresh surface of the skin. The process is something like crosshatching. The skin is kept wet during the scoring and when the napping is considered complete the skin is sprinkled with a mixture of water and maize meal to "clear" the nap. The "clearing" done, the hide is stretched and pegged, this time with the hair side up so that the hair can be scraped off. The skin is then ready for tanning with one of the following:

1. Kernals of *Ximenia caffra* — an astrigent plum with oily kernals.

2. Kernals of *Ricinus communis* — the Castor Oil plant.

3. The brains of cattle or wild game.

A paste made of one of these is rubbed into the nap, the hide rolled up tightly and encased in sacking. After two days it is removed and softened by rubbing one piece against another for eight hours.

Another account claims that pods from *Acacia arabica* are the commonest tanning material in both western and eastern Sudan and that they are the usual medium for tanning the goatskins known as Kano leather. Acacia pods are collected while green, macerated in water with an alkali, lime or ashes, and yield a leather which is pale fawn in color and rather soft. Ripe fruits yield a leather of a darker reddish color. In the process of dying Hausa leather black, the pods are added to refuse slag iron and molten scum from the blacksmith's charcoal furnace and the material is allowed to ferment in water for about three days. The black is then concentrated by boiling and honey or sugar is added.

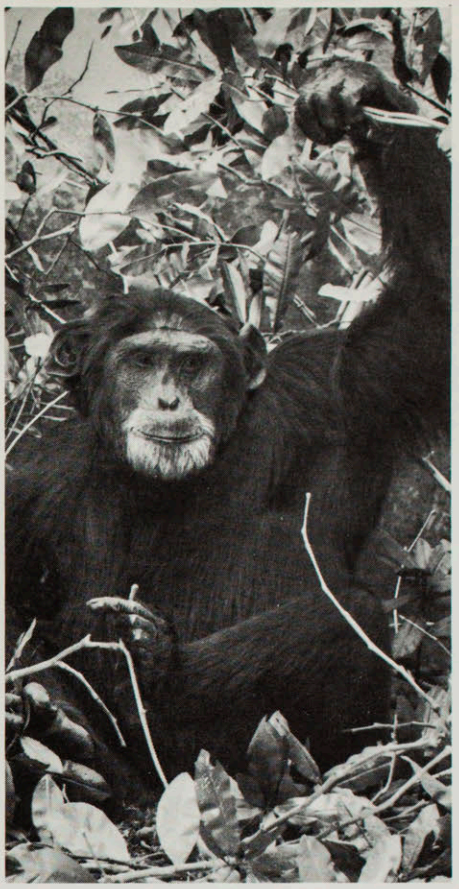
There is tannin as well as yellow coloring matter in the rinds of the Pomegranate and this is one of the materials used in curing leather. In North Africa the bark of the same tree was once used for tanning Morocco leather. Many of the dyes used for cloth and basketry are also available to the leatherworker and afford material for the lavish ornament which often can be traced to Berber and Islamic influence.

Great skill and craftsmanship go into the production of African leather products. Small rawhide boxes frequently are covered, as are baskets, with rows of cowries. Along with the traditional shapes it is fun to discover European objects, brandy bottles, metal tins and the like, often covered with a carefully pieced pattern in two colors of fur. The hair on the hides is sometimes shaved off in patterns, geometric or curvilinear. With some container covers the pattern is made by sewing in fine strips of dried leaf or stem. Fine grasses such as *Rhytachne triaristata* are used along with leather in Sierra Leone to weave finely worked ornamental coverings for cigarette tins and beer bottles.

Despite the popularity of imported or manufactured products, the indigenous useful arts are still being practiced with great skill in Africa. It is exciting to see how the craftsmen use even the most insignificant materials in their surroundings and, still working much within their tradition, constantly creat articles that are fresh and exciting.

CHIMPANZEES

CHIMPANZEES



Part I

by **Maurice A. Machris**

When Dr. Friedmann suggested that the members of the Knudsen-Machris Expedition take some time off after collecting the five elephants for the Museum exhibit and go to Uganda for some relaxed collecting of a few birds in the rain forests, this sounded like an invitation to paradise.

Oh, what fun to relax in a cool rain forest after the hot, dry desert of the Northern Frontier of Kenya. Too good to be true, it seemed.

And while you're there, he added casually, you might collect a family group of chimpanzees to fill out the African Hall. Not too much to ask, we thought — maybe a couple of days' work. It still sounded like good fun and relaxation.

We left the Northern Frontier and went directly to the beautiful, modern city of Kampala in Uganda to pick up our collecting permits and get as much information as possible from the Fish and Game Department about the territory we had been assigned, which was the Kibale Forest. They were helpful when it came to information about the forest, but they couldn't tell us anything about chimpanzees; where and how to locate them or how to get to them after we found them. They were Royal Game, never hunted and very seldom collected. Our professional hunters had never seen any in the wild. We were to be completely on our own.

There were lots of chimps in the Kibale Forest; this was about the only thing we knew for certain. But where in the Kibale Forest? That would be up to us to find out. Oh well, it would still be a nice, relaxing place to go.

On our way to the Kibale Forest we visited several game parks, enjoying four or five days of delightful leisure, photographing elephants and hippos in the lake district. This was all too short, but we weren't to know it 'til later.

Chimpanzee Group

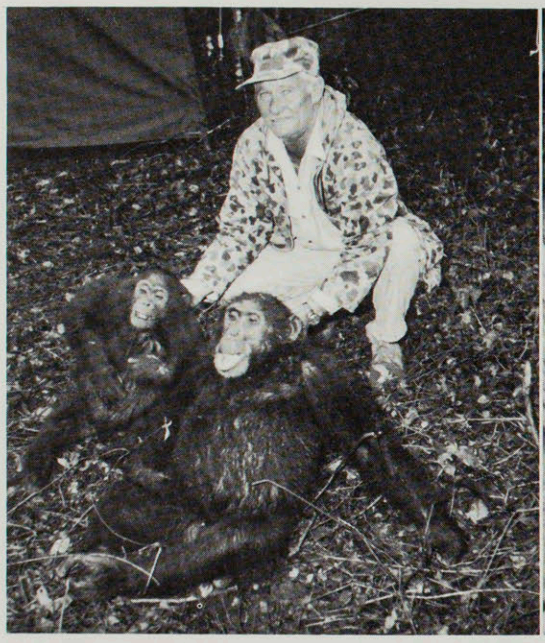
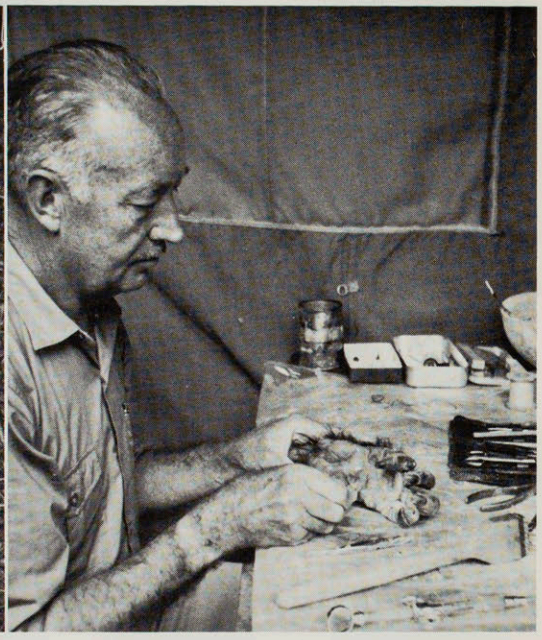


photo by Paquita Machris.

Mr. Maurice A. Machris with two of the specimens just collected.



Mr. George N. Adams working in the tent on one of the feet to preserve life-like details.

Chimpanzee Group
Mother and Baby

The Kibale Forest lived up to its name as a rain forest. It was a sea of mud. Two or three inches of rain fell every afternoon. Everything was wet all the time, including our tents. When it wasn't raining, it might as well have been, as the trees kept on dripping the rest of the day. Living wasn't easy. The floor of our eating tent was three to four inches off the ground and we understood why when we heard and saw the water flowing beneath our feet. It was like walking on a feather matress, only water squirted at you. Even the safari ants were flooded out and moving, always toward you or your tent. There wasn't any dry wood for the stoves. But we still had hot food. I don't know how our cooks did it, but that was what saved us.

Relax, rest and have fun, Dr. Friedmann had said.

George Adams, the Museum Taxidermist, joined us in our beautiful rain forest, wet tents and mud. After a day or two he started wondering about all the research he had done at the Museum on preserving the life-like characteristics of chimps.

We hadn't seen even one chimp, but we had heard a few, far away. By the time we reached the point where we thought they were, our approach through the underbrush had warned them to take cover. There were signs that they had been there and would probably return, but for the moment, no chimps.

After a week had gone by George was really despondent, sitting there in a damp tent, staring at all his bottles and equipment, and hoping his plaster of paris would stay dry.

George wasn't the only one discouraged. We were all about ready to give up. We had tried spreading out in the forest, attempting to pinpoint their location by triangulation, but the results were the same; when we converged, no chimps, nothing seemed to work.

Then we came up with an idea. Maybe the time to hunt them was at the height of the rain, when the chimps would be huddled together and less alert. And, hopefully, the rain would drown out sounds of our approach. It was a great idea and it worked. George was happy again, putting all of his research to work.

Seven years later the chimps are again living in their rain forest in the Los Angeles County Museum of Natural History.

Part II

by **Herbert Friedmann**

Of all the living species of primates the chimpanzee, of the equatorial forests of central Africa, is generally considered the one most comparable to the human stock, both in structure and in behavior. Aside from its interest in this connection, it has long been a familiar and favorite animal with zoo visitors. Its variety of poses, antics, and responses has made it of more general interest to more people than any other kind of monkey. Furthermore, the intensive studies of its behavior, both in captivity, over many years, by Yerkes and his students and colleagues, and more recently, in the wild state, by Jane Goodall, have further stimulated interest in, and focused attention upon, this sprightly and engaging creature.

These studies have made it clear that of all the anthropoids the chimpanzee most nearly approaches the human in its mental reactions; in its ability to learn by imitation; in some aspects of social organization. While it usually walks about on all four limbs, its hands are constructed for grasping and not merely for supporting its weight. This gives it a tremendous advantage, which it shares with other apes, presaging the "precision grip" or the "opposable thumb" that has been so important in the development of the human stock. The chimpanzee combines in its normal way of life a largely arboreal, tree-top existence, with an easy facility for living on the ground as well. Like its distant human relatives, it has a wide range of food substances, to which recent studies have added a considerable inclination to a carnivorous diet as well as its more usual consumption of plants and fruits.

The habitat groups of large African mammals in the Museum have been strong in their representation of the various carnivores, rhinos, giraffes, and antelopes, but have been singularly weak in their coverage of the primates. Because of this lack, and because of the wide public familiarity with, and interest in, the chimpanzee, a group of these apes was one of our top priority desiderata. Accordingly, when the Knudsen-Machris Expedition went to Africa in 1963 the collecting of a group of chimpanzees was high on their list, second only to elephants.

After the successful termination of the elephant hunt, the expedition headed westward hundreds of miles to the forests of western Uganda. It was in one of these rain forests, the Kibale, that the party finally settled long enough to collect the chimpanzees required for the group and also the necessary photographs of the scenery, specimens and molds of the tree trunks and leaves, all of which together entered into the making and assembling in the Museum of a completely accurate and realistic presentation of a family of chimpanzees in their west Ugandan forest environment.

The expert technical work in the field upon these specimens, while still fresh, of museum taxidermist George N. Adams made it possible to preserve perfectly the fleeting and highly mobile expressions of the faces and the positions and movements of the hands and feet of these chimps. Probably few visitors looking at the finished exhibit can begin to realize how much of the life-like appearance of these animals is due to the painstaking work of making molds from their faces and limbs before death had time to alter them. The excellence of the group is a result of this perfectionist proceedure, of this devotion to high ideals of accuracy and fidelity to nature. Added to the resulting quality of the mounted specimens and of the reproduction of the foliage is the beautiful and expertly painted background by Duncan Alanson Spencer, which conveys the depths and the atmosphere of the untouched, primeval forests in which these chimpanzees had their home and their existence. They and their surroundings have, in effect, been transported intact from the Kibale forest to Los Angeles.

The completion of this superb addition to the exhibits in the Museum was made possible by a special grant generously given by the Th. R. and Valley M. Knudsen Foundation, which covered the cost of the background painting.

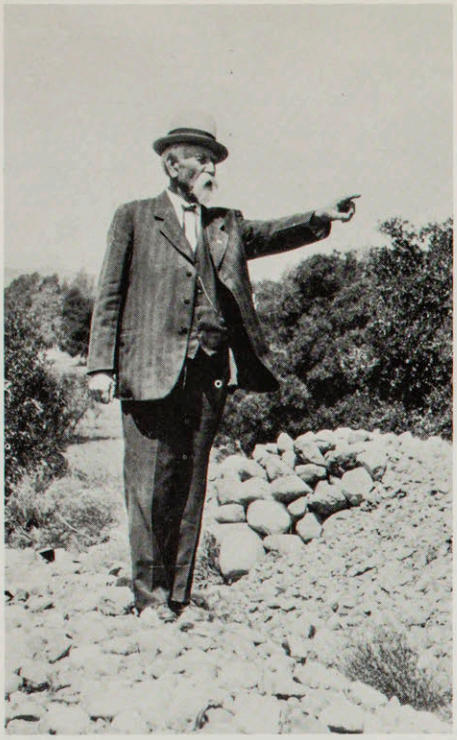
CALIFORNIA'S GOLD DISCOVERY THE RECORD SET STRAIGHT

by **Reverend Francis J. Weber,**
Archivist
Archdiocese of Los Angeles

Accounts of California's gold rush traditionally associate the person of James W. Marshall with that discovery in terms effectively overshadowing any presence of the precious substance prior to January 24, 1848. That such an impression is historically indefensible becomes obvious from remarks of Richard Henry Dana who reported that he had "heard rumors of gold discoveries" at least a dozen years earlier. The number of claims and counterclaims are legion. Among the more persuasive is that of the itinerant trapper, W. F. Thompson, who supposedly found gold in the Downie River in Sierra County sometime in 1839. The San Fernando Mission district in Southern California, however, bears the distinction of having supplied the world with the first "documented instance" of California gold, six years before Marshall found the glittering nuggets in Sutter's mill-race near the south branch of the American River.

As early as 1840, Andres Castillero, a renowned Mexican mineralogist, who later discovered the New Almaden quicksilver mine in Santa Clara County, reported finding, in the vicinity of San Fernando, *tepate* (water-worn pebbles of iron pyrite), a substance which, he claimed, indicated the likelihood of placer gold in the area. Eugene Duflot de Mofras visited San Fernando in the 1840's, and in his description of the once proud frontier outpost, the French traveller commented on the *estancias* or mission ranches of Las Virgenes, La Amorga, La Huerga, and San Francisquito, noting that "at this last rancho, gold was discovered."

The incident alluded to is the earliest for which a definite date and probable location can be authenticated. Credit for finding the elusive metal goes to Francisco, or "Cuso" Lopez, the mayordomo of the mission, who unearthed the precious substance on March 9, 1842, in present-day Placerita Canyon, near Castaic. The discovery was made near the ranch house on a parcel of land granted by Governor Juan Bautista Alvarado to Antonio del Valle



Charles Prudhomme is pictured in 1931 at the site of the Lopez gold discovery.

The gaping holes dug by disappointed prospectors were found even within the church at Mission San Fernando.

on January 22, 1839. The epochal event was described by Abel Stearns:

Lopez, with a companion while in search of some stray horses, about midday stopped under some trees and tied their horses to feed. While resting in the shade, Lopez with his sheath knife dug up some wild onions, and in the dirt discovered a piece of gold. Searching further he found more. On his return to town he showed the pieces to his friends, who at once declared there must be a placer of gold there.

Subsequent investigations indicated that auriferous fields extended from a point on the Santa Clara River about fifteen or twenty miles above its mouth over all the country drained by its upper waters and thence easterly to Mount San Bernardino.

It is related how "news of the discovery soon spread among the inhabitant, from Santa Barbara to Los Angeles, and in a few weeks hundreds of people were engaged in washing and winnowing the sands and earth of these gold fields." Though the ensuing rush to California was modest in comparison to the one following the Mother Lode find in 1848, Hubert Howe Bancroft recorded that a goodly number of prospectors soon filled the area, many of them from as far away as Sonora. Within a few weeks after Lopez's discovery, "the dirt, with a scanty supply of water, was paying two dollars per day to each man engaged in mining." A second placer was found the next year in San Feliciano Canyon on the same ranch, about eight miles west of Newhall. Christian baptism of this first authenticated finding of gold in California took place in the spring of 1843, when Father Blas Ordaz offered Holy Mass at the site on an altar built under a rustic bower.

The actual amount of gold taken from the area has never been accurately determined although William Heath Davis told of a prospector who realized $80,000 from precious metal. The quality was good, as Stearns later testified:

I find by referring to my old account books that November 22nd, 1842, I sent Alfred Robinson, Esq., twenty ounces, California weight, of placer gold to be forwarded by him to the United States mint at Philadelphia for assay.
The gold bullion, deposited by Robin-

This classical view of the once-proud San Fernando Mission dates from the 1870's.

Francisco Lopez unearthed gold in present-day Placerita Canyon, near Castaic.

son on July 8, 1843, was evaluated at $344.75 or $19 per ounce.

Excitement abounded for the next four years though scarcity of water and crude extracting methods made efficient mining extremely difficult. With the development of the Mother Lode country, interest in the small San Fernando deposits gradually abated and soon died out.

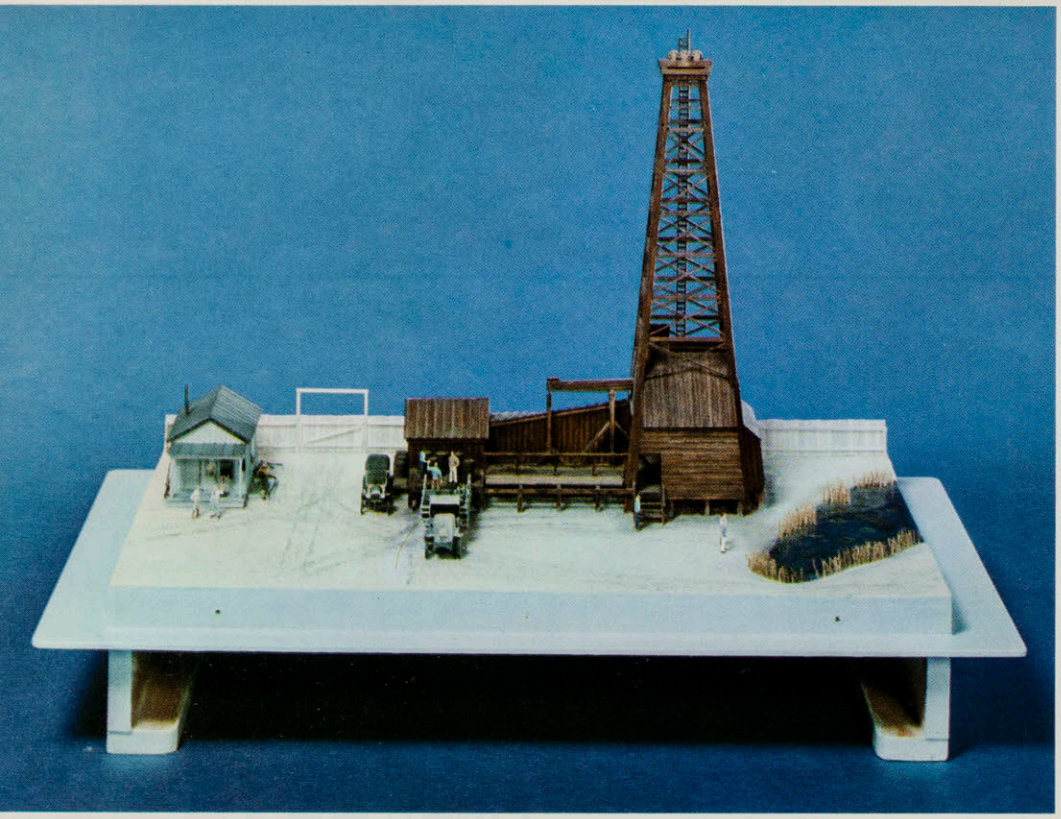
There were those who believed that the padres at the nearby mission had hidden away great quantities of gold for their private use. Theodore T. Johnson's treatise accounted for "the rigid silence as to the existence of gold in the country, maintained for more than a century" by charging that the missionaries realized that "the day of their supremacy and influence in California had gone by never to return" and were planning well for the years ahead.

A visitor to the mission, in 1904, saw huge gaping holes dug into the soil within the church itself. Even before the main altar were vestiges of a disappointed prospector. As late as 1915, vandals were reported searching for the holy treasures that were "buried in the bosoms of the dead monks" interred within the confines of the ruined mission church. Though the friars could scarcely have profited from a discovery made a generation after secularization, John A. Berger thought that "the Fates would have been inconsiderate if they had not granted the Franciscan missions at least a minor role in that momentous drama of the discovery of gold in California."

If it is true, as Robert Glass Cleland states, that prior to Marshall's fortuitous discovery "the great treasure of the California mountains remained unsuspected by foreign visitor and native resident alike," one can understand the relative silence of the annals for pre-1848 prospecting activities in the Golden State. In all fairness, however, this writer endorses a view expressed quite forcibly by Charles J. Prudhomme forty-five years ago:

Let Mr. Marshall yield up the laurel of fame as the first pioneer discoverer of gold in California to the brow of Don Francisco Lopez, to whom it justly belongs!

OIL



OLD BONES AND IRONY

by **Dixie P. Myers**
Museum Education Specialist
in Communication

This is a model of a wooden oil derrick, circa 1923 and — as all good models are — it is also a time machine. It is a time machine because in a space of 10″ by 18″, Peter Antheil senior preparator for the Education Division Lending Service allows us to see and experience a slice of 1923 Los Angeles.

It was a time when people tapped their feet to "Barney Google", and danced to "Dardanella" and "Avalon". It was the year America mourned the passing of President Warren G. Harding. It may have been a sleepy year by 1970 standards, but Los Angeles was already a young giant, and part of its growth was paced by the burgeoning oil industry.

This model is a particularly valuable addition to the Lending Service because it suggests two interesting and often contiguous histories. The first is the story of Rancho La Brea and a collection of ice age fossils, the second is the story of the oil boom in California.

It is the details that turn this model into a time machine; the Mack truck, the model "T" Ford and the "roustabouts" loading barrels on the dock. The derrick itself, an exact replica of hundreds that marched to either side of the "tar" pit area on Rancho La Brea, stands tall and deeply grimed. The oil field it taps was fully developed by 1923, and if the derrick looks older it is because it has already had a long and eventful history.

At the right is a "tar" pit surrounded by dead weeds and surveyed by two Museum officials who are checking out the pit for possible fossil material.

At the back of the derrick a boy in knickers peers through a chink in a long fence that is emblazoned with fading posters extolling Goblin Soap, Syrup of Figs, and the sovereign virtues of Fletcher's Castoria.

There is a certain charming irony in the posters because only 60 years earlier, oil itself was advertised even more luridly. Back East "rock oil" was skimmed from the surface of streams. Samuel Kier and others bottled it under the name of Seneca Oil, The Great American Medicine of the 1840's.

The bottles were wrapped in gaudy circulars that trumpeted miraculous, and usually anonymous, cures. It was a cure for ague and cholera morbus.

It was "... good for lungs, liver, and lights!" Seneca Oil and its many variants were sure cures for just about anything an imaginative and enterprising drummer could dream up. Perhaps people bought it in the conviction that anything that smelled so utterly vile had to be powerful medicine.

Oil was powerful, more so than its earliest users could imagine. By 1923 the raw material of a leering little patent medicine business was the sixth largest industry in the country and it quite literally fueled the number one automotive industry.

The story of oil in the Los Angeles Basin begins a good deal more quietly. Indians used oil products as they occurred naturally at La Brea; caulking boats and waterproofing baskets with pitch or melted chunks of brea tar. Occasionally they may have scavenged an easy meal or two by taking advantage of animals trapped in the black ooze.

When Los Angeles became a thriving pueblo, James O. Pattie wrote a lively account of the way the settlers used brea. He said the huge bubbles of tar boiled up from the earth and exploded with such extraordinary violence that the report could be heard in the pueblo — five miles away! As the bubbles burst, they hurled heated chunks of brea which when collected, laid upon a roof and melted in the sun made a splendid roofing.

Even though Mr. Pattie's account may strain credulity a little, La Brea asphalt materials were valuable enough to be specifically held for the people of Los Angeles when Rancho La Brea was provisionally granted to Antonio Rocha by Governor Echeandia in 1828.

In 1835 pueblo records indicate a minor altercation over the use of brea. The missions were accused of monopolizing the right. The charge was held unproven; but later in that same year, the pueblo transferred its interest to Carlos Baric, who was to pay into the city treasury 5% of all sales.

Eventually, the land including the La Brea asphalt deposits came into the hands of Major Henry Hancock, a lawyer who had come West with the Gold Rush. Hancock twice represented Los Angeles in the State Assembly, and was a government surveyor whose particular field of expertise was Mexican and Spanish land grants.

Major Hancock cleared the title to Rancho La Brea and at the close of the Civil War he began to ship asphalt to San Francisco to be used to pave streets and sidewalks. Some excavations were so cluttered with bones as to be commercially worthless. Little wonder that another name for Rancho La Brea was "La Huesamenta", Spanish for the "Bone-Yard."

Although Major Hancock had been a participant in the Gold Rush, he did not live to take part in California's great oil boom. He died in 1883, and Mrs. Hancock and her three children stayed on the ranch to raise stock and barley. They were "land poor," until, in the mid nineties, oil was discovered on Rancho La Brea.

Granted, it was hardly a surprise, but that oil could serve a purpose more important than dosing, paving, caulking or roofing was something else again. Swiftly, Mrs. Hancock became one of California's wealthiest women, and the reasons for her sudden good fortune were both complex and interesting.

The latter part of the 19th century was the age of steam power, but it was coal that fueled the steam engine. Here on the West Coast, good quality coal was unobtainable. Since coal was not mined here fuel costs for the railroads were proportionately larger and paying loads smaller. It is not surprising that railroad men were among the first to experiment with oil burning steam engines. Leland Stanford, who had built the western end of the first transcontinental rail system, experimented with an oil burning steam engine in 1886, then abandoned the project because the cost of crude was too high. Depending on California oil, then in its infancy as an industry, seemed a risky business. So the problem of a low cost fuel remained.

A few years stabilized California's oil industries and eventually both the Southern Pacific and the Santa Fe railroads initiated oil burning locomotives. Their reasons for doing so were economic, pressing and utterly pursuasive.

Newly exploited California oil could be produced and marketed at a price so low that it was impossible for coal to compete. For example, one pound of oil could evaporate 13 to 15 pounds of water, while a pound of the best coal available on the Pacific Coast could evaporate only 9 pounds of water. The arithmetic is simple. One pound of oil equaled the evaporative power of one and two-thirds pounds of coal.

These figures helped to make Mrs. Hancock and her family among the wealthiest in California.

In 1905 Professor W. W. Orcutt, manager of the geological and land survey departments of the Union Oil Company looked at some sabers of the saber-tooth tiger. Of course, bones had been found before; but they were thought to be those of domestic animals. Professor Orcutt suspected they might be something more. He contacted a friend who gave him the name of John C. Merriam of the University of California and in 1906 Orcutt and Merriam visited the pits.

In 1907 Professor Merriam asked for and received permission to excavate in the interest of the University. He hoped to find some evidences of an extinct wolf; in order to replace fossil material that had been destroyed in the San Francisco Fire. He succeeded beyond his greatest dreams. News of Professor Merriam's spectacular find of ice age fossils was first published in the October, 1908 issue of *Sunset Magazine* under the breathless but apt title, "Death Trap of the Ages."

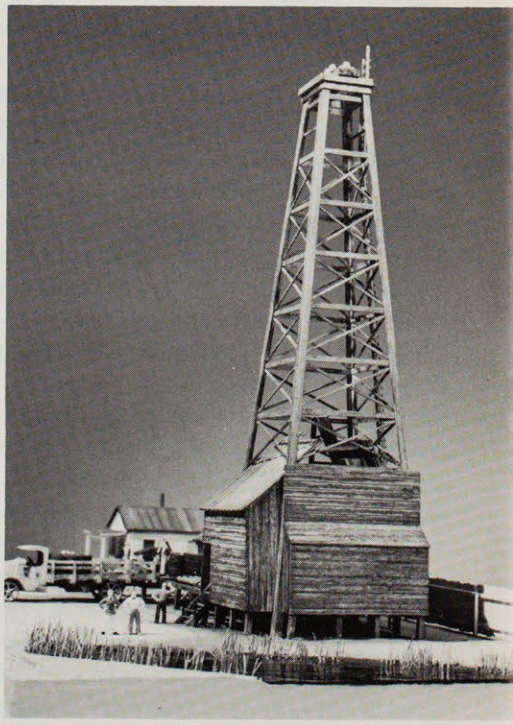
Los Angeles High School, the Southern California Academy of Science, and the then Los Angeles Museum of History, Science and Art also received excavation privileges.

The fossil finds were significant and stunning. Hundreds flocked to the ranch, thousands more visited the new museum at Exposition Park. As the teens of the 20th century passed, more and more people made their visit by automobile. It was an indication that one era was drawing to a close and another beginning for California's burgeoning oil industry.

During the age of steam it was heavier fuels that held the focus of attention. Gasoline was Cinderella. It was thrown out, burned in secret, disposed of in any way possible. Then Henry Ford devised a method of low cost production that put the automobile within the reach of everyone.

One of several old photographs of the La Brea Tar Pits that Peter Antheil used for research. The clump of trees in the center of the picture line what is now Fairfax Avenue.

At the base of the derrick two museum officials survey a weed encircled pool while roustabouts load oil barrels into the truck.



The incredibly rapid development of the automobile industry was matched by the success of the oil industry in meeting a new and totally unprecedented demand for gasoline.

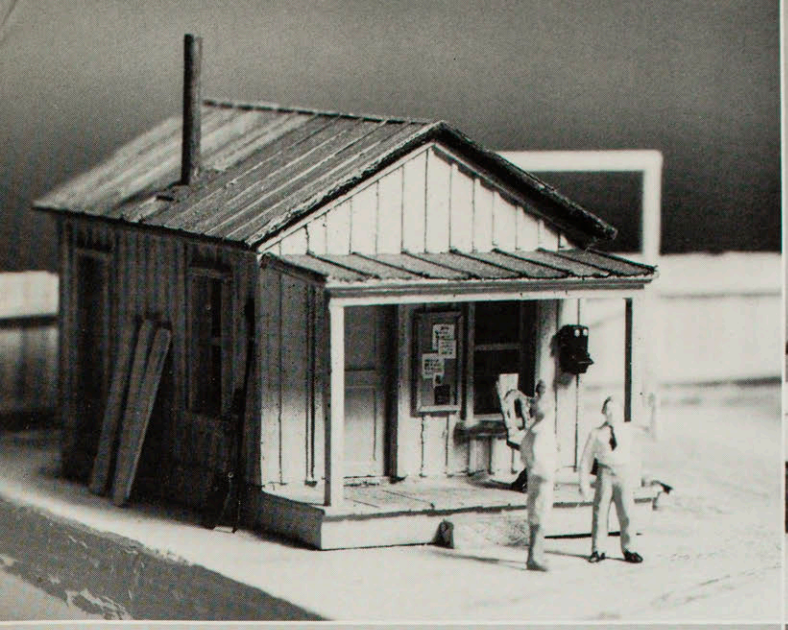
Though statistics have a tendency to become numbing these are revealing: by 1923 California was the largest oil producing state in the United States. Production almost doubled in one year; 140 million barrels in 1922, 273 million barrels in 1923. 65 refineries were owned by 50 different companies with a capital investment in land and facilities of $800,000,000. In 1913 there were no gas stations; by 1923 there were 4,133 in this state alone.

As we know, the story of oil in California is not over yet, nor is the story of Rancho La Brea and a world famed collection of ice age fossils — fossils that are still being excavated. But by 1923 the Los Angeles basin oil fields were fully developed. Wells like the one in this model, still chugged and pumped black wealth from the depths; but the bonanzas were somewhere else — at Whittier-Fullerton, Huntington Beach and Santa Fe Springs. In Los Angeles, a city was engulfing the oil fields.

Perhaps G. Allen Hancock had foreseen the change. In 1916, he gave to the County of Los Angeles 32 valuable acres of Rancho La Brea. It was the section containing the famous La Brea "tar" pits.

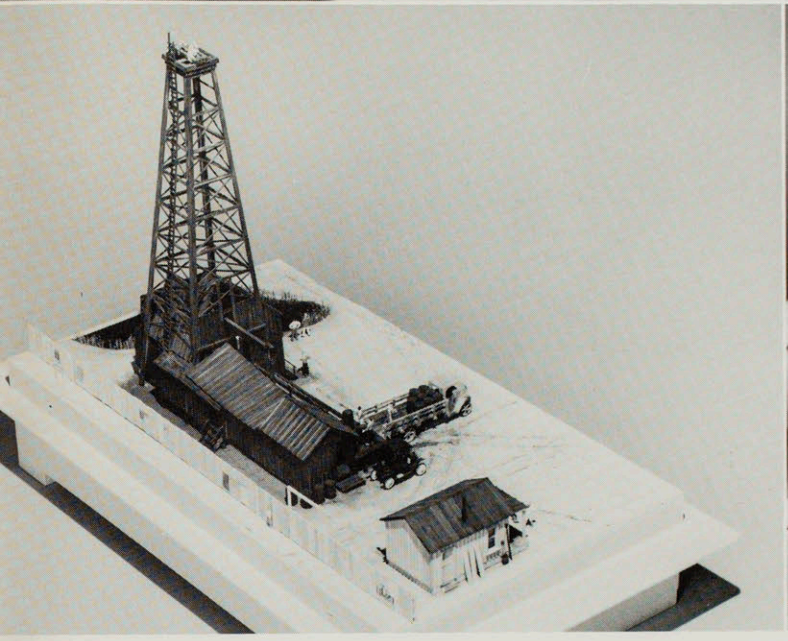
For such a princely gift there were relatively few conditions. Among them he required that a small museum be built, and that trees and shrubbery be planted.

The gentle irony of one last condition brings this discussion to a close. Mr. Hancock firmly stipulated that "... at no time shall the property be used for the development of oil."



The shack is deliberately crude. Note the white-washed boards askew at the side of the building and the rough cut railway tie that serves as a front step.

A model "T" Ford complete with crank and a 1923 Mack truck add a note of authenticity.



Had you been flying low over Rancho La Brea in 1923, this is how a typical oil derrick would have looked.

Sideview of the Super's office. One man obscures the other.

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